Committee on Resources

Witness Testimony

Statement of Richard Keigley to the
Subcommittee on National Parks and Public Lands
Oversight Hearing on Science and Resource Management
in the National Park System

My name is Richard Keigley. I am an ecologist employed by the Biological Resource Division of the USGS. I have been subpoenaed to appear before this subcommittee and do not represent the Department of Interior.

From March 1991 to June 1996 I was duty stationed in Yellowstone National Park. Prior to my assignment to NBS in October 1993, I had a 22 year career in the NPS.

If science is to be successfully applied to controversial issues, we must acknowledge where problems exist and correct them if possible. I will briefly describe a problem. I will then describe five ways in which I believe the research program could be improved. Those five ways involve: 1) the measurement of success, 2) the allocation of fiscal resources, 3) the link between science and management, 4) conflict resolution, and 5) relationships with park neighbors.

In 1991 I was assigned to investigate the effect of elk on riparian ecosystems in Yellowstone's northern elk winter range. In 1995 I was barred from conducting research in Yellowstone. In my opinion, I was removed because I was finding scientific evidence that did not support Yellowstone's resource management policies. My removal means that one point of view will be absent from Yellowstone's research program. This kind of bias can jeopardize the search for scientific truth.

How can the present research program be improved? One possible means of improvement would be a change in the way success is measured. At the present time, "client satisfaction" is an important measure of success. In some cases, this standard may inhibit BRD from providing objective science.

It is only natural that a park manager might prefer one research outcome over another. But a credible science program will provide the "bad news" when appropriate. Many managers can accept a less-preferred research outcome with good grace and remain a satisfied client. But some will not. In this case, if a scientist is unwilling to accommodate the manager, BRD has no alternative but to withdraw the scientist from the research program, otherwise, client satisfaction will not be attained. To protect the integrity of science, the standard of client satisfaction should be reconsidered. I believe there are alternative ways of assessing service to the client agencies.

My second point deals with how fiscal resources are allocated to individual scientists. We have seen from previous testimony that scientific research can become highly polarized. If those scientific ideas are allowed to compete on a level playing field, one point of view should come to dominate over other points of view. But if the allocation of fiscal resources is skewed to some point of view, the validity of an opposing point of view may not emerge, even though it more closely corresponds with scientific truth. BRD should develop a new procedure to: a) identify cases where polarization exists, and b) if it does, equitably allocate fiscal

resources to opposing points of view.

BRD's service to the parks could also be improved by strengthening the link between science and management. The management of each park is guided by its Resource Management Plan. These plans describe resource issues, identify recommended management alternatives, and identify and prioritize research needs. The Resource Management Plan is a critical link between science and management.

At the present time, the responsibility for preparing Resource Management Plans lies with park management. The degree of input by BRD is a matter of park discretion. In cases of controversy, there will be a temptation to slant the preparation or interpretation of Resource Management Plan project statements. BRD must then live with this situation.

I believe BRD's research effectiveness could be improved by establishing a formal partnership in Resource Management Plan preparation and interpretation. Scientists would then have a mandated role in describing resource issues, identifying needed research, and prioritizing research implementation. This partnership is too important to be left to chance.

BRD's research program could be improved by establishing procedures for resolving unhealthy conflict. We should recognize that conflict plays an integral role in the search for scientific truth. Truth emerges when ideas are allowed to compete on a level playing field.

But we also know that conflict can take directions that inhibit productivity. I believe it would be to the Department of Interior's advantage to develop formal procedures to resolve conflicts among scientists and between scientists and managers.

We are all aware of current conflicts between the state of Montana and Yellowstone National Park. To a large degree those conflicts arise due to different resource management objectives. The reconciliation of these kinds of conflict is not a proper role for scientists.

But conflicts have also arisen over matters of science. For example, what is an appropriate size for Yellowstone's northern elk herd? Yellowstone claims that the elk herd is at a proper size and that there is no evidence of range deterioration within the park. As a result, the visitor to Yellowstone believes they see a vignette of primitive America. They especially enjoy the easy viewing of elk.

From some park neighbors' perspective the situation is different. Elk migrate out of Yellowstone during the winter. Private ranchers complain that their ranges deteriorate because of excessive elk use. State and USFS lands are also impacted. The ability to regulate the size of the northern herd when it is outside of Yellowstone is politically limited by the perceptions held by the American public. For that reason, Yellowstone's neighbors have a vested interest in the BRD science that is conducted in service to Yellowstone.

Yellowstone's Resource Management Plan limits its discussion of ungulate impacts to those that occur within the Park borders. In recognition that NPS issues extend beyond the park's borders, Resource Management Plans should incorporate those perspectives when describing resource issues. Representatives from the State and private entities should be involved in the development of the plan. BRD could coordinate the identification and prioritizing of research needs. A National Park can have an immense impact on its neighbors. Those neighbors should have a formal way to express their concerns.

I summarize my recommendations. The attainment of client satisfaction does not necessarily translate to the attainment of good science. BRD should investigate alternative methods of measuring success. In cases where scientific opinion is strongly polarized, there should a balanced allocation of fiscal resources directed at the research problem. A formal procedure should be developed to accomplish this objective. Resource Management Plans are the critical link between science and management. Their development should involve a formal partnership between BRD and NPS. DOI should develop a formal procedure to mediate unhealthy conflicts among scientists and between scientists and managers. Finally, a park's Resource Management Plan should address the impacts that park management may have on its neighbors.

###